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Bank cross-border mergers and acquisitions
(Causes, consequences and recent trends)

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Abstract

In the past fifteen years, cross-border mergers and acquisitions have had an ever increasing role in the process of bank internationalization. Although a consensus view has developed on the determinants of a bank's decision to expand abroad and on the determinants of the patterns of expansion, the debate on the consequences of foreign bank presence is still open. The aim of this chapter is twofold. Firstly, it discusses the major results of the empirical literature studying the determinants, the patterns, and the consequences of bank foreign expansion. Secondly, it studies whether the determinants of bank foreign expansions have changed through time, estimating an econometric model of the patterns of cross-border bank M&As between 1990 and 2006.

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1 Introduction

International banking has grown substantially in recent years, as part of the ongoing process of the globalization of economic activities. Historically, it is not the first time that the banking sector has experienced an acceleration in its internationalization process. At the end of the XIX century, for example, foreign banks were already deeply involved in large investments abroad, in particular towards colonies. After nearly fifty years of quiescence, the surge in sovereign lending fostered again international banking activities, starting from the beginning of the 1960s and progressively gaining momentum. However, between 2001 and 2003 cross-border bank M&As witnessed a striking drop. Although this evolution has mainly mirrored that of national M&As in the financial as well as the manufacturing sector, some observers have suggested that this might have determined a change in the model of bank cross-border expansion.

Based on these stylized facts, this chapter has two main objectives. Firstly, it discusses the major results of the literature studying the determinants and the patterns of bank foreign expansion. Secondly, it tests if the traditional explanations of the patterns of bank internationalization are capable of explaining also the most recent evolutions, estimating an econometric model of the patterns of cross-border bank M&As between 1990 and 2006.

The empirical analysis concentrates on cross border M&As, the expansion strategy that gained most relevance in recent years. Indeed, as pointed out by Goldberg and Saunders (1981), banks can follow a number of different ways in order to extend their activities abroad,[1] but in recent years cross border banking activities have taken more and more the form of international acquisitions, especially by part of large and strong institutions in more developed countries towards the less developed economies. While from about the beginning of the 1960's to the mid 1980's the number of banks' foreign branches in the developed countries increased rapidly, in the following years foreign branching became less and less popular, determining for example a

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[1] Banks can provide services to foreign counterparts, directly or through representative offices or agencies, open a foreign branch, open a brand new bank abroad or acquire shareholdings in a foreign bank (subsidiary). Direct lending is typically offered to large-scale borrowers, often in the form of syndicated loans which can be managed directly from abroad or through representative offices or agencies. Foreign branches can offer a broad range of banking services, although traditionally their activity is primarily concentrated in the wholesale market. Subsidiaries have the same banking powers as domestic banks, and are typically used to access the foreign retail markets.

reduction in the number of foreign institutions directly operating in New York from 323 at the end of 1985 to 205 in 1998 (Brealey and Kaplanis, 1996), and the number of cross-border mergers and acquisitions increased sharply (Berger et al., 2000). In the following years, the process of bank internationalization has gathered further speed, especially towards developing countries. The entry of foreign banks has been especially prominent, but again the pattern has not been geographically uniform. In some Latin-American and Central- and Eastern-European countries (CEECs), over 50 percent of total banking assets are now foreign-controlled. In the case of the CEECs, foreign entry has been favoured by the process of nationalization of the public financial institutions that has taken place as a move towards more market oriented economies (Papi and Revoltella, 2000). In Asia, Africa, the Middle East and the former Soviet Union progress has been slower, possibly due to stronger formal and informal entry barriers and because the overall process of integration has been less pronounced, but the trend has been remarkable also in these countries. Overall, according to Claessens and Lee (2002), in 2002 foreign banks accounted for about 7 per cent of total bank assets in low-income countries, up from 3 per cent of 7 years prior.

The surge in international banking activities has attracted the interest of the academic community, which has intensively analyzed the phenomenon, especially from an empirical point of view. The large number of studies produced in recent years have helped to reach a broad consensus on many questions related to bank internationalization, such as which banks expand abroad, where they go and what institutional form they adopt when entering foreign markets. On the contrary, to date the available evidence is less conclusive on whether entry is beneficial to the host country.

The rest of the paper is organized as follows. Section 2 discusses the available evidence on the patterns of bank internationalization, focusing on which banks are more likely to internationalize, where do they invest and which institutional form they choose to expand abroad. Section 3 describes the most recent trends in bank cross-border M&As and presents the results of the estimation of the econometric model on the determinants of bank cross-border M&As, aiming at verifying whether the acceleration of the last years follows different patterns from before. Section 4 discusses the effects of bank internationalization. The final section discusses what implications can be drawn from the available evidence and discusses some open questions.

2   Evidence on bank internationalization

2.1   Which banks expand abroad?

As mentioned in the introduction, the pattern of bank internationalization, although widespread, is unevenly distributed with respect to a wide number of characteristics: size of the banks involved, geographical patterns of foreign presence, institutional form of the presence abroad. The first step that I take in order to understand the overall process is therefore to describe the characteristics of the banks that are most likely to expand abroad.

A widely accepted result of the empirical literature is that banks with foreign asset participations are typically larger and better run, that they are located in countries more open to international trade and with a more developed banking system. Tschoegel (1983), Ursacky and Vertinsky (1999) and Focarelli and Pozzolo (2001), for example, found a positive correlation between the size of a bank and the probability that it has foreign participations, a fact that might be related to the presence of fixed costs in bank internationalization, to a stronger incentive for asset diversification, and to the fact that larger banks have larger clients who are more likely to benefit from having their home country bank follow them abroad[2]. Focarelli and Pozzolo (2001) also found that banks with higher profitability and a larger share of non-interest over total income are more likely to hold foreign participations. More recently, Tschoegel (2002) has pointed to the fact that multinational banks are typically the larger in their country of origin, suggesting that the decision to expand abroad is related to the diminishing opportunities of expansion within the national borders, possibly also for antitrust reasons. Most important for the implications on the effects of the presence of foreign banks for the hosting economy, banks with a stronger propensity to internationalize have on average higher returns on assets, a higher share of non interest income and lower overhead costs.

Also the characteristics of the country of origin affect the probability that banks expand abroad. Grosse and Goldberg (1991), Magri and Rossi (2005) and Focarelli and Pozzolo (2001 and 2007) found that banks from countries with a more developed banking sector are more likely to be

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[2] See also Ball and Tschoegl (1982), Tschoegl (1983), Williams (1996), Williams (1998), De Felice and Revoltella (2003), Focarelli and Pozzolo (2005), Piscitello and Pozzolo (2006).

present in foreign markets. Further, Focarelli and Pozzolo (2001) found a positive effect of the average country level profitability in the banking sector and of the incidence of non-traditional banking activities, and Magri et al. (2005) show that foreign banks in Italy are more likely to come from countries where the cost of provision is lower. The effect of the development of the stock market seems instead to depend on the sample of countries analyzed and on the measure of bank internationalization adopted (Focarelli and Pozzolo, 2001 and 2007). This is not too surprising since a more developed stock market is typically associated with more efficient financial institutions, but it can also provide wider profit opportunities to local banks, that therefore have lower incentive to expand abroad. Finally, ter Wengel (1995), Buch and DeLong (2004) and Berger et al. (2004) found that banks from countries with higher total GDP are more likely to be present in foreign markets, but in the specification adopted by Focarelli and Pozzolo (2007) this result is not confirmed.

Summarizing, the available evidence seems to suggest that foreign banks are likely to be among the most efficient in their country of origin and to come from the most developed banking markets. However, as pointed out by Chang et al. (1998) and confirmed by Berger et al.'s (2000) study of foreign subsidiaries in France, Germany, Spain, United Kingdom and United States, this might not be sufficient to make them more efficient than their local competitors when they operate abroad.

2.2   Where do banks expand abroad?

The obvious next step it to try to explain the patterns of expansion. A large number of empirical studies has addressed this issue, identifying, with a reasonable degree of consensus, a set of major determinants. One way of presenting them is to distinguish between measures of bilateral integration and characteristics of the host countries.

The literature has measured the degree of economic integration between home and destination countries in a number of different ways, ranging from geographical distance, to the

volume of bilateral trade flows and bilateral foreign direct investment, always finding very relevant effects.[3]

More recently, the empirical research has focused on the role of cultural and institutional proximity (e.g., sharing the same language or the same legal system), and of similarities in the degree of economic development. Berger et al. (2004), Buch and DeLong (2004) and Focarelli and Pozzolo (2007) show that countries sharing the same legal system and the same language are more likely to have cross-border bank M&As. Berger et al. (2004) also show that country pairs with similar levels of total and per-capita GDP are more likely to have cross-border bank participations, but this result is not robust to adopting the specification of Focarelli and Pozzolo (2007). Further, Focarelli and Pozzolo (2007) found a negative effect of the similarities between home and host countries development of the banking sector. Participation to a currency area also increases the probability of bank cross-border participations (Allen and Song, 2005; Focarelli and Pozzolo, 2005). Finally, a recent paper by Claessens and van Horen (2007) has extended this line of research, showing that banks located in countries with a high institutional framework are more likely to expand towards countries where institutional quality is also high, while banks located where institutions are weak have a competitive advantage to expand towards countries with a relatively low institutional environment.

With regard to host country characteristics, the high degree of correlation between the explanatory variables, and the differences in the measures of internationalization adopted (e.g., flow measures such as M&As, as opposed to stock measures, such as foreign shareholdings) and in the countries included in the sample, weaken the robustness of the results. Berger et al. (2004) found a negative effect of realized GDP growth on the probability that a country is the destination of foreign acquisitions. Buch and DeLong (2004) show that targets are more likely to be hosted by countries with higher total GDP, while the evidence on the effect of per capita GDP is less neat. Focarelli and Pozzolo (2005) suggested instead that banks are more likely to be present in countries with higher expected economic growth, and argue that this happens when *per-capita*

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[3] A non exhaustive list includes Goldberg and Saunders (1980 and 1981), Ball and Tschoegl (1982), Nigh, et al. (1986), Goldberg and Johnson (1990), Grosse and Goldberg (1991), Sagari (1992), ter Wengel (1995), Brealey and Kaplanis (1996), Miller and Parkhe (1998), Yamori (1998), Williams (1998), Berger et al. (2003), Buch (2000 and

GDP is lower (and therefore the convergence hypothesis suggests that growth is going to be faster), the level of education is higher, credit and financial markets are larger and the rate of inflation is lower. Finally, in their interesting analysis on European data presented in chapter 10, Affinito and Piazza (2008) show that regions hosting linguistic minorities and in which the average size of manufacturing firms is smaller have a higher incidence of local banks.

A set of studies suggest that banks prefer to expand towards countries where the degree of competition with domestic banks is lower, for example because local banks are less efficient (Focarelli and Pozzolo, 2005), and where the institutional framework is more favourable to banking activities, because there is a high quality legal and institutional set-up, low regulatory restrictions and higher disclosure requirements on banking activities (Berger et al., 2004), and more reliable supervisory authorities. Indeed, Focarelli and Pozzolo (2007) provide evidence consistent with the hypothesis that not only explicit regulatory and competition barriers, but also implicit government barriers affect the patterns of bank internationalization. Furthermore, Berger (2007) argues that the presence of implicit government barriers to entry, together with the comparative disadvantages found by Berger et al. (2000), are likely to be the most important reasons for the low presence of foreign banks in developed countries.

This evidence confirms that the choice to expand abroad can be motivated by a reasonably large number of possibly interlinked reasons. In some cases it seems clear that banks simply follow their clients operating abroad and set up branches in order to offer them services to support their operations in the foreign country, as shown by the relevance of the level of bilateral trade. At the same time there are instances when the bank's expansion depends purely on the possibility it has to exploit a competitive advantage with respect to the local competitors, as is likely to be the case for the entry of foreign banks in the transition economies of Eastern Europe.

2.3   How do banks expand abroad?

As discussed by Goldberg and Saunders (1981), banks can choose a number of different ways to access foreign markets. Within the two most common forms, branching is less organizationally

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2003), Buch and Delong (2004), Berger et al. (2003 and 2004), Magri et al. (2005), Focarelli and Pozzolo (2005 and 2007).

demanding, but allows the bank to run a limited set of operations in the foreign country and makes the holding institution liable with the entirety of its capital. Instead, by setting up a foreign subsidiary, an international bank has complete access to the host country market and has a liability limited to the capital of the foreign corporation; as a downside, it normally incurs far higher set up costs. The choice between foreign expansion through branches or subsidiaries is therefore the result of a trade-off between these two major factors, as well as a number of other institutional characteristics.

Focarelli and Pozzolo (2005), for example, suggested that branches are more often used to provide financial services to local clients when they operate abroad, especially in financial centres, while subsidiaries are more often chosen in order to operate with local clients[4]. Studying this issue in more detail, a recent contribution by Cerutti et al. (2007) shows that branches are more likely to be set up when foreign operations are smaller in size and are wholesale oriented, and in countries that are poorer and have higher corporate taxes, possibly because in this case it is easier to shift profits where taxation is less severe. Subsidiaries are more common in countries where macroeconomic risk is high, because they ensure limited liability to the parent company. However, when risks come from the possibility of government interventions, foreign banks prefer to expand using branches, because their financial assets are far less easy to confiscate.

The broad picture of the patterns of bank internationalization provided above has pointed to a number of explanations on which a consensus has been reached, showing however that the role of other factors is not yet well understood. Indeed, the characteristics of the process of bank internationalization are unlikely to remain unchanged through time. In the following, I will try to provide some evidence on the most recent evolutions in international banking.

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[4] In a recent contribution, available only in Italian, Piscitello and Pozzolo (2006) showed that bank specific characteristics, and size in particular, have a stronger explanatory power with respect to the patterns of internationalization through branches and subsidiaries, less in the case of representative offices, and that longer distance and sharing a common language increase the probability that banks choose to expand abroad using more complex organizational structures.

3   Recent trends in international banking

As argued in the introduction, in recent years international banking has expanded rapidly, both in developed and in developing countries. As shown by Figure 1, there has been a substantial rise in the number of cross-border M&As in banking between 1990 and 2000. Moreover, although between 2001 and 2003 a number of factors have determined a drop in the number of cross-border M&As, in the following three years bank cross-border expansion has returned to the previous trend of growth.

The increase in the number of cross-border M&As is not only due to a more intense merger activity, but it is also due to a stronger degree of internationalization. The share of cross border M&As has nearly doubled between 1990 and 2006. Also, the collapse in the number of cross-border M&As in the 2001-2003 period was not mirrored in a drop in the share of cross-border over total M&As, but was instead the result of the reduction in the overall number of M&As.

Figure 1

Cross border M&As in the banking and manufacturing sectors
(numbers and percentage values)
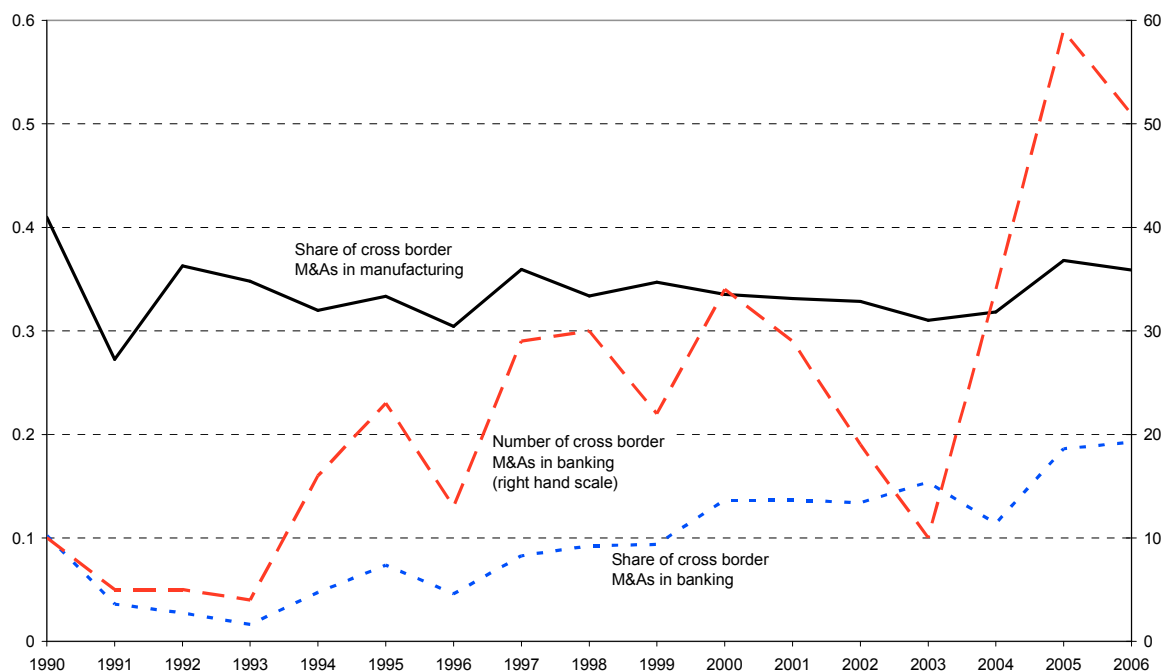
In order to better understand the most recent evolution of bank cross-border M&As and to verify if its resurgence in the last three years has happened along new patterns than in the past or it is simply the continuation of the previous process, in the rest of the section I take two steps. First, I analyze in more detail the descriptive evidence on the patterns of bank international expansion, also in comparison with manufacturing. Second, I estimate a simple model of their determinants and verify whether the empirical specification is robust to estimation across different time periods.

3.1 Stylized facts

Although bank internationalization has increased in recent years, it has still been far slower than that in the manufacturing sector. According to figures reported by Focarelli and Pozzolo (2001), in the 1990's, the average share of mergers and acquisitions involving a foreign counterpart was 12.9 per cent in the banking industry, as opposed to 29.6 per cent in the entire non-financial sector, and 35.3 per cent in the manufacturing sector, which is the most international according to such an indicator. However, Figure 1 shows that the lower degree of internationalization in the banking sector relative to the non financial sector has decreased through time, while the share of cross border M&As in the manufacturing sector remained substantially constant during the same period, although at a significantly higher level. This evidence suggests that impediments to cross-border M&As decreased substantially in the financial sector, although they remain indeed higher than in manufacturing.

Many reasons can be found to explain such a pattern. Focarelli and Pozzolo (2001) point to two major factors: the far greater importance of information asymmetries in banking relationships than in other transactions and the presence of stronger regulatory restrictions in banking than elsewhere in the economy. Relative to the first issue, it is clearly much more difficult to judge the value of a bank than that of a manufacturing firm, because bank assets typically include loans to small firms that can be very difficult to evaluate (Morgan, 2002).[5] With respect to the second issue, in addition to the much tighter formal regulation that characterizes the banking and financial

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[5] Indeed, this difficulty is confirmed by the financial crisis that took motion from the surge in US subprime mortgage defaults in the summer 2007 and evolved as investors realized that it may be very difficult to assess the exposition of banks towards risky assets.

sectors as opposed to the manufacturing sector, it is widely recognized that regulatory agencies sometime use various means, ranging from moral suasion to other stronger discretional powers, in order to create additional barriers to the entry of foreign actors. Such behaviour, which seems quite common all over the world, is often justified on the assumption that banking is a strategic sector and that the access of foreign players may be harmful for the hosting economy.

The degree of integration in the market for corporate control in the banking sector shows different patterns depending on the geographical areas considered. The share of bank cross-border M&As within G10 countries is much lower than the average value all over the world, confirming that these nations raise higher explicit and implicit barriers to foreign entry, as argued in Focarelli and Pozzolo (2007). The same share is higher and it is increasing faster when considering operations within OECD countries. Within EMU, despite a much higher variability, the share is substantially higher, although on average still lower than that calculated considering operations all over the world. Banks from G10 countries, OECD countries and, especially, from the EMU are much more likely to do cross border M&As with banks in less developed countries than within themselves. Moreover, this share is higher and it is increasing faster for OECD than for G10 countries.

Figure 2

Share of cross border M&As in the banking sector by geographical areas
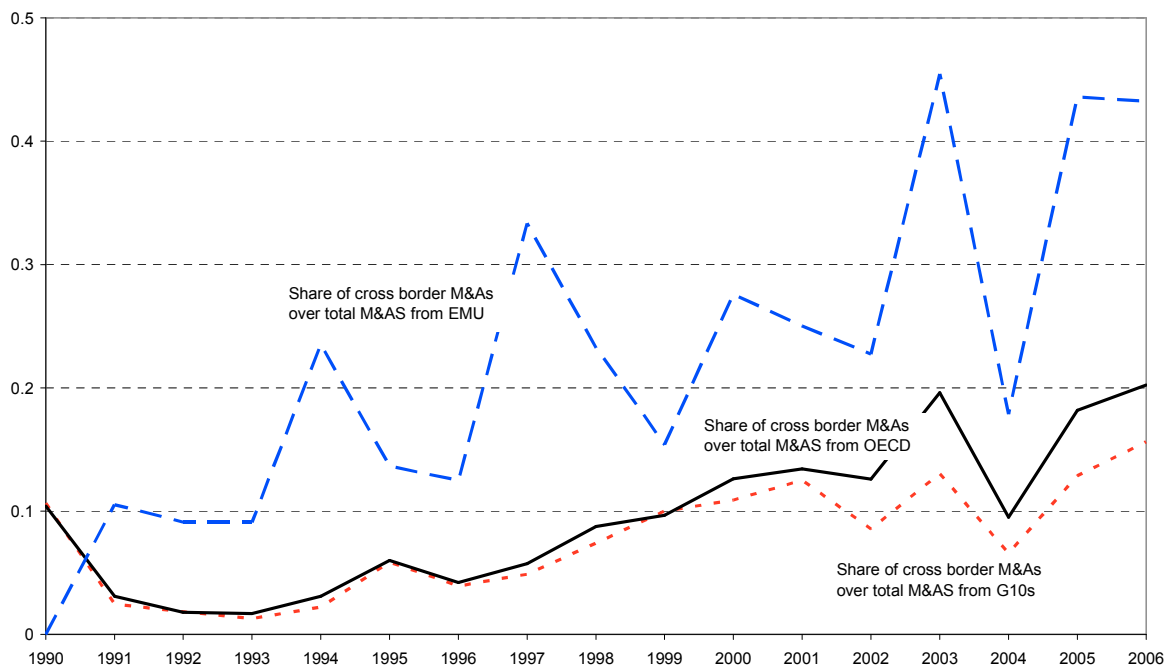*(percentage values)*
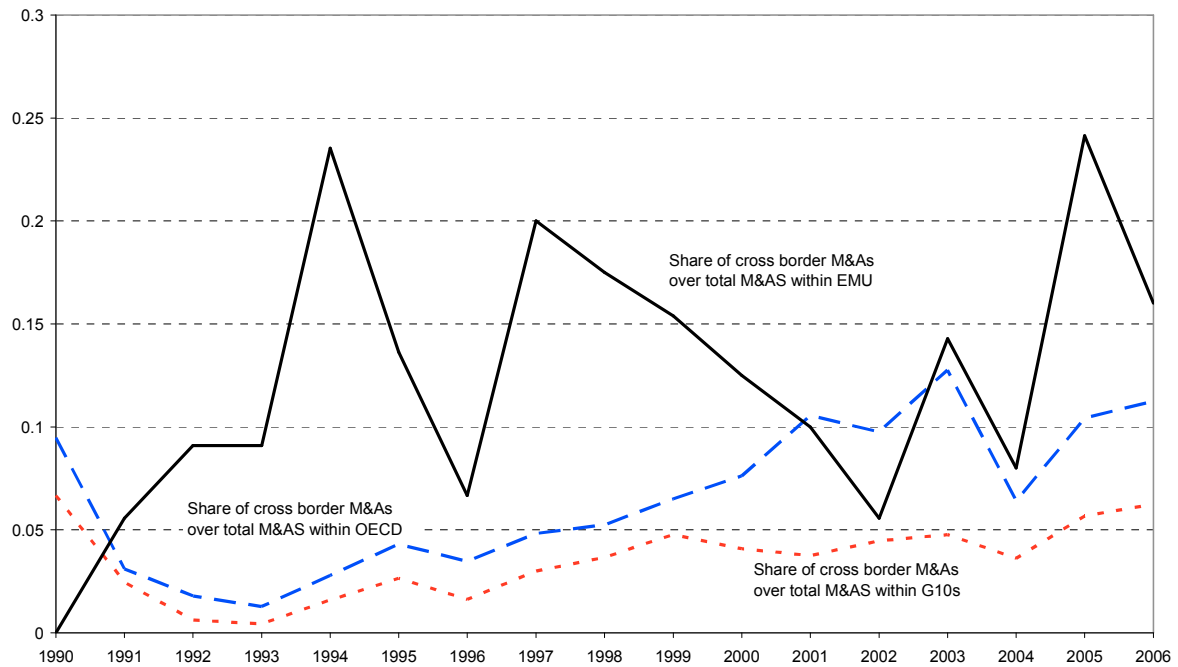
Figure 3 shows that the number of cross border M&As has followed a similar pattern for operations generated in different geographical areas, although it has been increasing faster for less developed countries than for G10 and OECD members.

Cross border M&As by area of origin
(numbers)
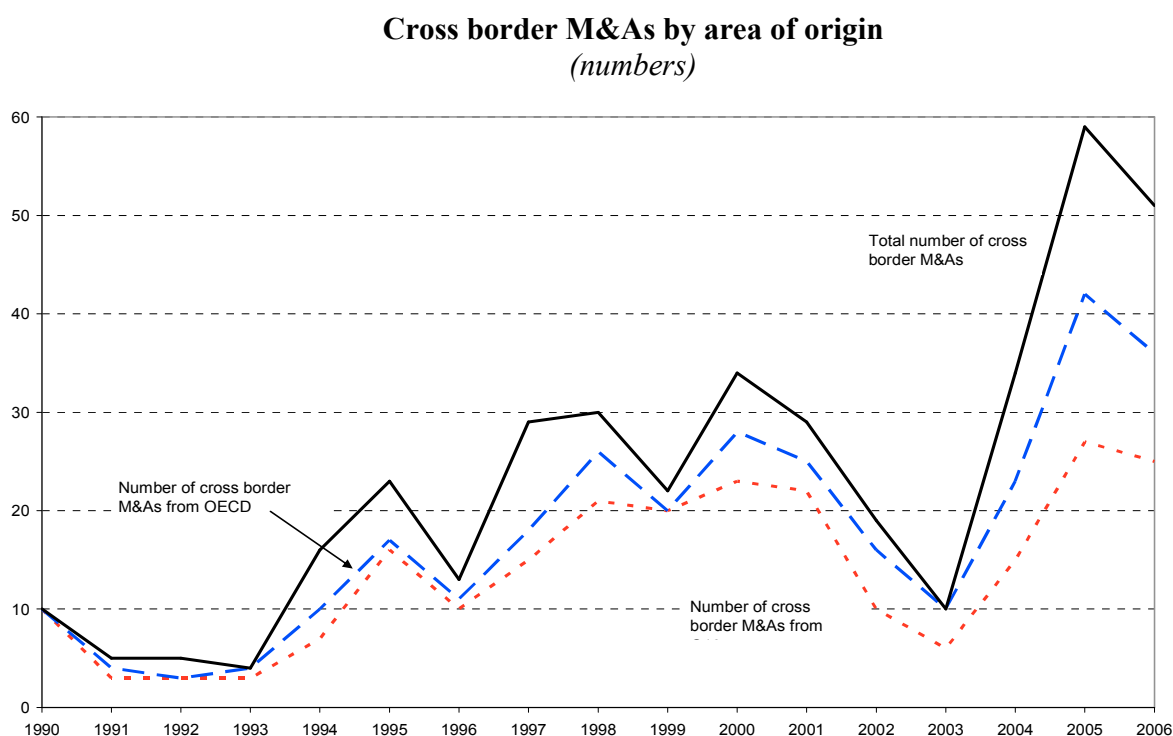
At the same time, Figure 4 shows that the share of cross-border M&As from and to G10 and OECD member states had reached a peak in 2000, to decrease substantially in the following years. The drop has been stronger when considering operations from more developed countries, leaving more space to less developed countries in the international market for bank corporate control.

Figure 4

Share of cross border M&As by area of origin
(percentage values)

Finally, and most interesting, the average nominal value of bank M&As has remained substantially constant in the last 16 years, theref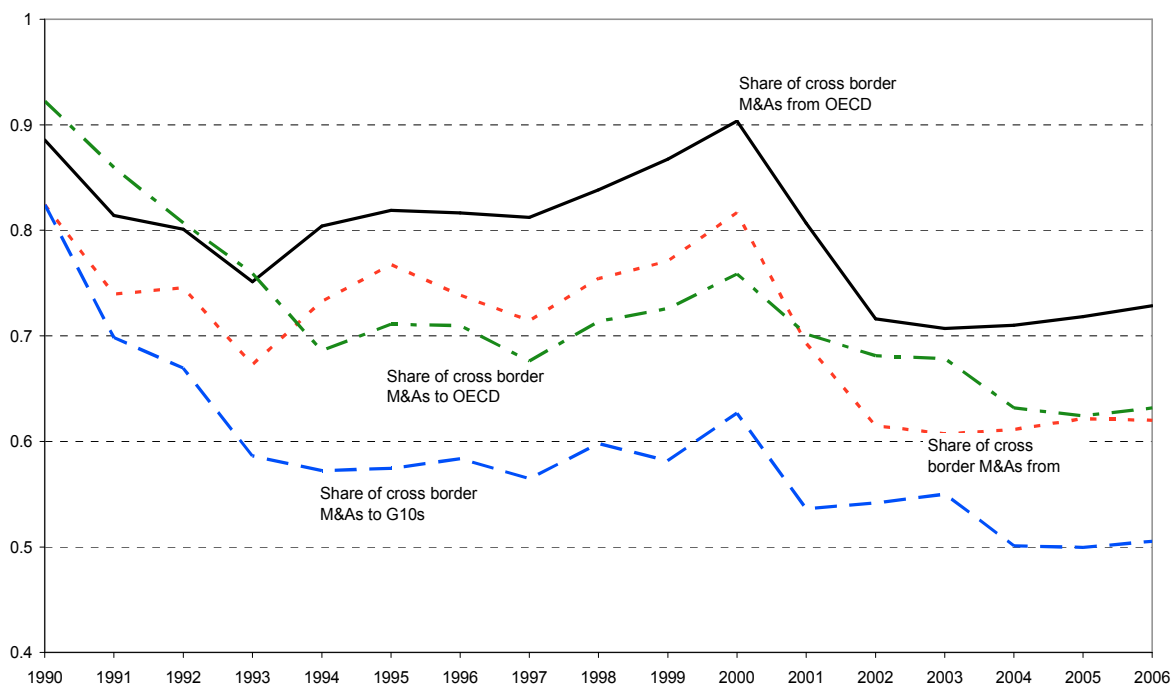ore decreasing quite substantially in real terms. This evidence is consistent with the hypothesis that fixed costs in cross-border M&As has reduced, making also operations of smaller size profitable.

The average value of cross-border operations is surprisingly smaller than that of national operations, suggesting that the limits to acquisition of foreign control are an increasing function of the size of the operation, consistent with an explanation based on implicit barriers to substantial foreign entry. As expected, the value of operations originating within G10s and the OECD is larger than the world average, because banks in these countries are typically larger than in less developed countries.

Figure 5

Average value of operations by area
(million of US dollars))
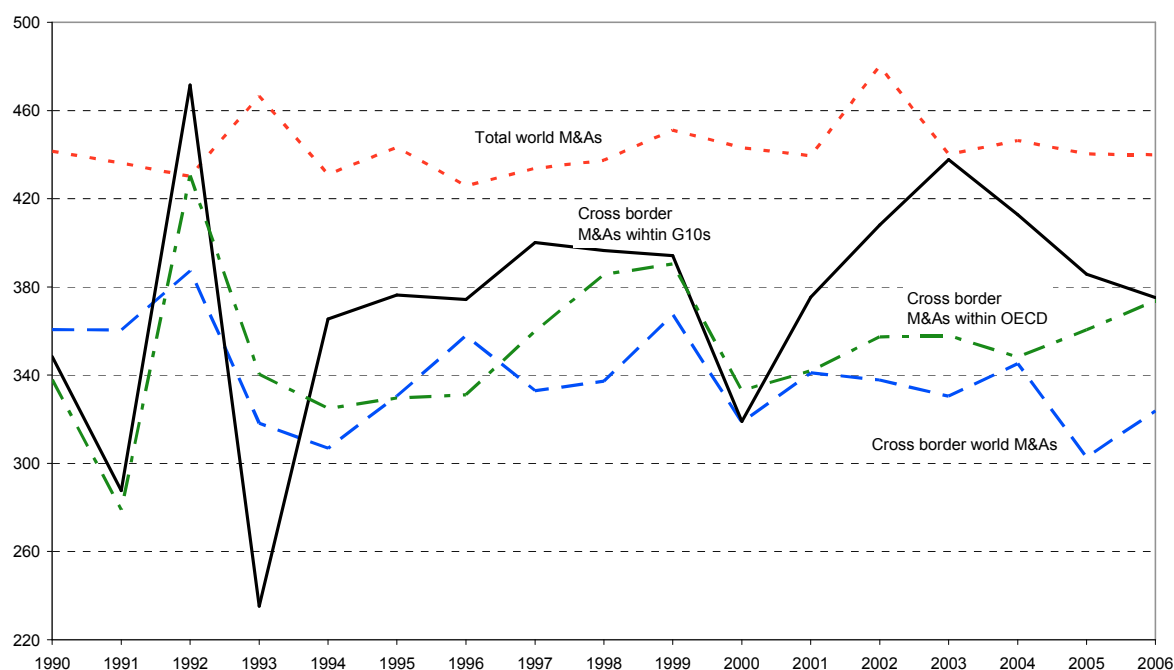
The evidence presented so far suggests that some changes took place in the pattern of bank cross-border expansion, although apparently only the drop in the share of cross-border M&As from and within the most developed countries seems to be linked, at least chronologically, with the reduction in merger activities that took place at the beginning of the century. Whether this evolution calls for a new empirical model of the determinants of bank cross-border expansion will be discussed more in detail in the following section.

3.2 The determinants of cross-border M&As across time: an empirical investigation

In order to verify if the determinants of bank cross border M&As have changed through time I borrow the empirical framework proposed by Berger et al. (2004), who consider as potential explanatory factors both similarities and differences between the home and host countries. The rationale for this setting can be found on the extension to the analysis of FDIs of the traditional

Ricardian theory of comparative advantages, on one side, and of the new trade theory, on the other (Markusen and Venables, 1998).

As it is well known, according to the Ricardian view, firms in one country will produce and export the goods for which they have comparative advantages over firms in other countries. Extending this idea to FDIs in the credit sector, banks should therefore find it more profitable to expand towards countries that are fairly dissimilar from their home country, because in this case they are more likely to have a comparative advantage in providing financial services. The new trade theory, on the contrary, emphasizes the importance of trade among similar areas. According to this view, one should therefore expect that bank expand their activities towards countries that are similar to their home nation. Broadly, the empirical predictions of the two theories are therefore that firms operating in countries with more developed banking and financial systems should acquire firms in financially less developed countries (Ricardian advantage theory) and countries with similar national characteristics should be more likely to have cross-border M&As (new trade theory).

In order to test these alternative hypothesis, I adopt an empirical specification similar to that in Focarelli and Pozzolo (2007), but expanding the time dimension. In particular, instead of collapsing all information to a cross-section specification, I exploit the panel dimension of the data, spanning the period from 1990 to 2006. With respect to the set of explanatory variables, I include both time invariant and time varying information. In particular, I proxy comparative advantages in the banking and financial activities by stock market capitalization, and credit to the private sector. Moreover, I introduce in the specification the interaction between these two measures, in order to capture non-linear effects. Further, I include total and per capita GDP in the origin and destination countries, because banks operating in larger and richer countries are more likely to have the size required to expand abroad, to be backed by the political endorsement which is necessary in order to acquire a foreign bank, on one side, or to avoid foreign entry, on the other.[6] According to the Ricardian view, banks from countries with a higher ratio of credit to the private

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[6] The concept of political endorsement is quite difficult to define from a theoretical viewpoint or to measure empirically. It is nonetheless highly relevant, as is proved for example by the harsh debate on the contestability of European corporations in many so-called strategic sectors of economic activity (e.g., the cases ENEL/Gaz de France

sector and stock market capitalization over GDP, and with higher total and per capita GDP should be more likely to expand towards countries in the opposite condition. Positive coefficients on these variables would therefore provide support to the theory.

The degree of similarity is measured by an index analogous to that in Berger et al. (2004),[7] calculated with reference to the same characteristics used to measure comparative advantages: the development of banking and financial markets and the levels of total and per capita GDP. Positive coefficients on these variables can be interpreted as evidence in favour of the new trade theory.

Finally, as it is customary in the literature, the degree of geographic, economic and cultural integration between the origin and destination countries is measured by the geographical distance, the volume of real bilateral trade and dummies for countries sharing a common language and for those sharing a border. However, as argued by Berger et al. (2004), positive coefficients on measures of bilateral integration are consistent with the Ricardian as well as with the new trade theory, because they proxy for the costs of foreign expansion.

3.2.1 The econometric setup

As in Focarelli and Pozzolo (2007), the choice of the econometric setup is different from that of Berger et al. (2004) and follows instead the empirical literature on FDIs (e.g., Blonigen, 1997), setting as dependent variable the number of M&As from country i to country j and adopting a negative binomial specification, in order to account for variance over dispersion.[8]

The dependent variable Y_{ijt}, is defined as the number of cross-border M&As between country i of the bidder company and country j of the target company in year t. I therefore estimate the following model:

$$Pr\ (Y_{ijt} = y_{iyt}) = \frac{e^{-\nu_{ijt}\mu_{ijt}}(\nu_{ijt}\mu_{ijt})^{y_{ijt}}}{\Gamma(y_{ijt}+1)} \qquad\qquad y_{ijt} = 0, 1, 2, \dots , \qquad\qquad (1)$$

and:

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[7] For energy, Financial Times, February 27th, 2006; ABN Amro/Antonveneta for banking, Financial Times, April 15th, 2005; Abertis/Autostrade for services, Financial Times, May 16th, 2006).

[7] For a generic characteristic x, measured in countries i and j, the index is equal to: 1-[abs(x_i - x_j)/max(x_i,x_j)]; it has a maximum value of 1 when the two countries are identical with respect to that characteristic and declines toward zero as they become more and more dissimilar.

[8] See Cameron and Trivedi (1986) and, for a textbook description, Wooldridge (2001).

$$\mu_{ij} = e^{\beta' x_{ijt}} \tag{2}$$

where $\Gamma(y_{ijt} + 1)$ is a Gamma distribution with mean 1 and variance α; x_{ijt} is a matrix that includes vectors of characteristics, at time t, of the bilateral relationship between country i and country j, of the country of the bidder company, i, and of the country of the target company, j. The product of the number of countries of origin, the number of potential countries of destination of the M&As and the number of years gives the number of observations used in the estimation.

To test for the differences between the determinants of internationalization across time, I also estimate a unified model introducing dummies to allow for the effects of each variable to differ across the three periods considered.[9]

3.2.2 Data and summary statistics

Data on M&As

Data on M&As are from the Platinum Worldwide Mergers and Acquisitions Database of the Security Data Corporation (SDC). They include information about the target and acquiring firms, such as their country of residence and SIC code of primary economic activity, and, if conditions and terms of the transactions are disclosed, about the value of the deal, the effective date of realization and the percentage acquired by the bidder. In the analysis I include all the completed transactions reported in SDC for which information is disclosed and that involve significant acquisition of value ("acquisition of a major interest") or change in control ("an acquisition that increases the stake of the acquiring institution from less than 50 per cent to 50 per cent or more of the ownership shares of the target institution").

I consider deals between 1990 and 2006, restricting the sample of countries that I consider to those where at least one deal took place between 1990 and 2006. In total, I have over 80,000 possible potential year, home- and host-country combinations. Finally, I define a deal as cross-border when the nationalities of the target and the acquiring firms are different.[10]

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[9] In practice, I pool the data and include the vector of right-hand-side arguments three times, multiplied by a dummy that equals one for each time period.

[10] The definition does not coincide with that of SDC, which refers to the nationality of the ultimate parent firm of the bidder institution.

Data on countries

Data on GDP are from the Penn World Tables, version 6.2 (Heston et al., 2006). Data on bank credit and stock market capitalization are from the World Bank database. Data on geographical distance, bilateral trade (the logarithm of the volume of bilateral trade) and common language are from Andrew Rose's web site.[11]

3.2.3   Econometric results

Table 1 presents the results of the estimates of the empirical model described by equations (1) and (2). Panel A reports the marginal elasticities of the total number of bilateral cross-border M&As in the financial sector with respect to a change in each dependent variable, including time dummies; panel B presents the result of a specification excluding time dummies and including a linear trend.[12] Standard errors are calculated using the delta method.

The results of panel B confirm the existence of a positive and significant trend in the number of cross-border M&As, despite the drop registered at the beginning of the century. Moreover, the exclusion of the time dummies has left all other coefficients substantially unchanged. I will therefore concentrate my comment on this second specification.

Financial sector M&As are more common between countries that are geographically closer and have stronger economic and cultural relationships. Cross-border M&As are more likely when the geographical distance between the countries is smaller (with an elasticity of -0.46), trade relationships are stronger (0.64), the same language is spoken (0.12). The effect of sharing a common border is positive but not significantly different from zero. These findings confirm the results of Focarelli and Pozzolo (2007) and are in line with those of Berger et al. (2004). Clearly, they do not enable us to discriminate between the traditional Ricardian theory of comparative advantages and the new trade theory, because both theories share the same implications with respect to measures of bilateral integration.

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[11] Missing observations on bilateral trade are replaced by the most recent available information.

[12] The marginal elasticities measure the percentage change in the number of cross-border M&As caused by 1 percentage-point change in the level of the dependent variable considered, all else being equal. As is customary in the literature, when the dependent variable only takes values zero and one, the elasticity is calculated with respect to a discrete change.

The next set of variables is related to tests of the new trade theory, suggesting that cross-border M&As should be more likely within countries sharing similar characteristics in terms of financial and economic development. The results reported in column B provide some support to this view. Countries with similar level of GDP (with an elasticity of 0.26) and banking sector development (0.29) are more likely to be involved in cross-border M&As. Similarities in per-capita GDP and the development of the stock market have also a positive effects, but the coefficient is not significantly different from zero. The overall evidence is therefore mildly supportive of the new trade theory.

Turning to the set of variables related to the Ricardian theory, which suggests that cross-border M&As are determined by the comparative advantages (disadvantages) of the bidders (targets), I find that banks of countries with higher total GDP are less likely to acquire foreign credit institutions, while the effect of per-capita GDP is not statistically significant. This result is consistent with the explanation of Tschoegel (2004), suggesting that the decision to expand abroad is related to the diminishing opportunities of expansion within the national borders. A higher level of development of the origin country banking sector is associated with a higher probability that banks acquire foreign institutions, although the negative coefficient of the interaction term between bank and stock market development shows that the effect is decreasing as the stock market gets larger, consistent with the hypothesis that a more developed stock market offers larger opportunities of expansion within national borders, reducing the benefits to go abroad. Similarly, banks coming from countries with a more developed stock market are more likely to expand abroad, possibly because they have a comparative advantage in a broad range of financial activities, but again this effect is decreasing in the development of the banking sector.

Additional evidence consistent with the Ricardian theory is provided by the characteristics of the destination countries. Having a lower total and per capita GDP increases the probability of being a target of foreign acquisitions (with an elasticity of -0.38 and -0.41, respectively), as well as having a less developed banking sector and stock market.

The number of cross-border M&As is also significantly affected by the number of domestic operations in the country of origin and in that of destination. The former is a push factor, suggesting that domestic and cross-border M&As share to some extent common determinants, such as the availability of financial resources to expand or favourable stock market conditions. The

effect of a more active domestic market is indeed positive, although the elasticity is significantly smaller than one (0.38). The total number of domestic M&As in the destination country is a pull factor and it can be seen as a proxy for the degree of contestability in corporate ownership. It has also in this case a positive effect, with a marginal effect of 0.66, significantly different from unity, as it would be the case if contestability had no asymmetric effects for domestic and foreign acquirers (see also Focarelli and Pozzolo, 2007).

Table 2 presents the results of the estimates of the same model, conducted on sub samples restricted to three different periods, 1990-2000, 2001-2003 and 2004-2006, and including time dummies. The three sub periods have been chosen with the intent to test the hypothesis that the drop in the number of cross-border M&As registered between 2001 and 2003 has determined a change in the model of bank cross-border expansion.[13] Although the coefficients estimated using the smaller samples tend to be less significant than those of the longer time span, the overall evidence shows some interesting patterns. As expected, the coefficients of the estimates on the first sub sample (1990-2000) are very similar to those obtained from the entire sample, with the only major exception of the effect of distance.

Turning to the differences within the three sub samples, the effects of the measures of bilateral integration seems to have changed through time. After the beginning of the century, the effect of geographical distance has become particularly strong, with no significant differences in the two sub periods considered, while that of sharing the same language has become irrelevant. Similarly, the effect of bilateral trade has reduced in the last sub period. Surprisingly, sharing a common border seems to have had a negative impact on the number of cross-border M&As between 2001 and 2003, although the marginal effect is negligible. In the following period the effect has become once again positive, but insignificantly different from zero.

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[13] The first sub period is much longer than the following two. Although cross-border M&As have grown at a fairly constant rate between 1990 and 2000, it is still possible that their determinants have changed during this longer time span. Moreover, from a strictly statistical point of view, coefficients estimated on a larger number of observations have smaller standard errors and are therefore more likely to be significantly different from zero. In order to verify the possible impact of considering this longer sub-period, I have also estimated the model on a first sub period of the same length of the following two (1998-2000), finding results qualitatively identical to those reported in table 3. I thank Dario Focarelli for suggesting me this control.

Coming to the variables related to the new trade theory, with the turn of the century the effect of the similarities in total GDP has become insignificant. The similarities between the degree of development of the credit market had no effects on the number of M&As between 2001 and 2003, but their positive impact has been the same both before and after that period.

The effect of the variables related to the Ricardian theory has changed substantially through time. The negative effect of a higher total GDP in the origin country has become insignificant between 2001 and 2003, to turn positive between 2004 and 2006. Similarly, starting from 2001, banks in countries with a higher per capita GDP has become more likely to acquire foreign credit institutions. At the same time, the effect of the development of the banking sector and of the stock market has become insignificant from 2001. Banks from G10s had a comparative advantage in expanding abroad in the first part of the period analyzed, but this effect has also become insignificant. Finally, in the last period, the effect of domestic bank M&As is insignificant, suggesting that internationalization has become a strategic choice per se, and not simply as one of the possible ways of realizing corporate deals.

Looking at the characteristics of the destination country, the effect of total and per-capita GDP has become progressively insignificant, while that of the development of the financial markets has slightly decreased. Finally, also the effect of the number of domestic M&As in the country of destination has become insignificant.

Overall the evidence seems to point to a general reduction in the ability of the model to explain the patterns of cross-border M&As, as if the role of bilateral linkages and of comparative advantages at the country level was becoming less relevant. In a more progressively and integrated world, it is likely that cross-border M&As are better explained by firm-specific opportunities, than by country level characteristics.

4 What are the effects of bank internationalization?

The effects of bank internationalization can be assessed from at least three different points of view: of the acquirer, of the acquired and, more in general, of the hosting country. In the following I will discuss the major findings of the literature according to each of them.

4.1 Effects of internationalization for acquiring banks

With respect to the first issue, which has not been analyzed thoroughly in the literature, the empirical research has focused almost exclusively on the effects on the stock price returns of bidder banks in cross-border M&As. Amihud et al. (2002) and Cybo-Ottone and Murgia (2000) found weak evidence of significant positive effects of cross-border M&As on the value and risk of the acquiring bank. Campa and Hernando (2006), on the contrary, found that cross-border deals within European countries have nearly no effects on the acquirer's excess returns. Amihud et al. (2002) also found that total and systematic risk, measured by the variance of bank stock returns and their β coefficient, are substantially unchanged after the merger. This result is partly confirmed by Focarelli et al. (2008), who show that the acquirers' systematic risk increases as a result of mergers, but less so for cross-border operations. On a similar ground, Choi et al. (2007) found that bondholders perceive bank internationalization as a risk-increasing activity, as shown by the significant increase in bond yield spreads after the announcement of a cross-border M&A.

While mixed, these results are slightly different from the findings of the studies focusing on domestic deals, that normally show that in an M&A the bidder suffers a loss, that is typically offset by the target's gain (Amel et al., 2004), and from those showing that geographically diversifying mergers within the US do not create value (DeLong, 2001) or have negative returns (Cornett et al., 2003), and produce worse performance gains (Cornett et al., 2006).

4.2 Effects of internationalization for acquired banks

The effects on acquired banks have been studied more in detail. Campa and Hernando (2006) found slightly negative short run excess returns for target banks in the case of cross-border deals, and significantly negative excess returns in the longer run. The evidence is more favourable when considering balance sheet measures of bank performance. The case study in Latin American by Crystal et al. (2001) shows that foreign banks are sounder and have higher loan growth than their domestic counterparts. Claessens et al. (2000 and 2001) and Claessens and Lee (2002) showed that foreign banks operating in developing countries are more profitable and have lower costs than domestic banks. Berger et al. (2004), studying a sample of Argentinian banks, found weak evidence of performance improvements for targets of cross-border M&As, and Micco et al. (2007),

studying a larger sample, found that in developing countries targets of cross-border M&As have on average lower return on assets, but after the acquisition tend to reduce their costs relative to their domestic counterparts, with a positive albeit insignificant effect on profitability. Interestingly, they found a negative effect on profitability when the target is in an industrial country. Lastly, Altunbas and Ibanez (2004) studied the change in total profitability of cross-border bank mergers within European countries, finding that it is higher in the case of cross-border mergers within banks that are less similar with respect to loss provision policy and the weight of loans in their balance sheets, and more similar in capitalisation and in their attitude towards financial and technological innovation.

Overall, although some more research is needed on this issue, there is no clear evidence that cross-border consolidation in the financial sector is beneficial for either acquiring or acquired banks, a result which is not surprising to the extent that no such evidence has been also in the case of domestic consolidation (Amel et al., 2004).

4.3 Effects of internationalization for countries hosting foreign banks

Summarizing the empirical findings discussed above and in the previous sections, it is clear that banks expanding abroad are typically more efficient, come from countries with a more developed banking systems and typically expand in countries with an overall less efficient banking system. In other words, better banks tend to expand to countries with worse banks. Coming to the effects of foreign banks for the hosting country, one therefore expects that the efficiency of the host country's financial system and its overall performance should improve as a result of the entry of foreign banks. Indeed, the position that foreign banks are beneficial for the host economy, recently advocated also by Focarelli and Pozzolo (2005) and Goldberg (2007), is at odd with the traditional view, blatantly against the access of foreign banks.[14] Historically, policy makers have been patently hostile towards foreign banks, fearing that they might worsen the allocation of credit with respect to the autarchy equilibrium and increase the risk of financial crisis and the business-cycle sensitivity of lending.

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[14] It is to notice that, until recently, many economists and policy makers had a negative attitude also towards foreign direct investment inflows in the manufacturing sector.

The available empirical evidence is not definitive. Cross-section analyses show that foreign bank entry has positive effects on developing country economies. Claessens et al. (2000 and 2001), Claessens and Lee (2002) and Bayraktar and Wang (2005) showed that foreign entry helps to improve the efficiency of local banks, determining a reduction in profitability, in interest margins and in overhead costs.[15] Given the causal link between a country's financial sector development and its rate of real economic growth, found largely in the empirical literature, inflows of foreign bank direct investment are likely to be welfare enhancing for the host economy. Bayraktar and Wang (2006) provided indeed some evidence that foreign bank presence causes higher per capita GDP growth.

One of the major criticisms that has been aimed at foreign banks is that they typically focus on larger clients, reducing the availability of credit to small and medium enterprises. The evidence on this issue is not definitive. Recent empirical analysis, found evidence both in favour and against this view. Crystal et al. (2001), show that foreign banks in Latin America in the second half of the nineties have stronger loan growth and a greater ability to absorb losses than their national counterparts. Clarke et al. (2002), studying a large sample of over 2,000 firms in 38 developing countries, found that the presence of foreign banks improves the amount of credit available and reduces the prices for firms of all sizes, although the effect is indeed stronger for larger firms. Similarly, Martinez-Peria and Mody (2004) found that foreign banks typically charge lower interest rate spreads than domestic banks. Calyes and Hainz (2007) distinguished between internationalization through acquisitions and through greenfield investment, finding that the presence of foreign banks is typically associated with lower average lending rates, but that only newly set banks charge lower interest rates than average. On a related ground, Bonin and Abel (2000) found strong empirical evidence of the positive effect of foreign banks operating in Hungary, showing that their presence also forced the only major bank without foreign shareholders to develop new products and better services, and Giannetti and Ongena (2007) showed that the presence of foreign banks in Eastern European countries has favoured firm sales, asset growth and

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[15] Similar results are found in a number of country studies, for example by Barajas et al. (2000), Clarke et al. (1999) and Unite and Sullivan (2001). Yeyati and Micco (2007) found instead evidence that foreign banks in Latin American counties tend to be more risky and to have higher market power than local banks.

entry and exit from the market, although these effects are indeed weaker in the case of smaller firms.

Despite this evidence pointing to a positive role of foreign banks for the hosting economy, a less positive picture emerges from a recent influential paper by Mian (2006), based on detailed information on bank-firm relationships. Quoting the author's own words, "informational and agency costs related to cultural and geographical differences can lead foreign banks to shy away from lending to soft information firms", even if they are potentially sound. Consistent with this result, Berger et al. (2007) found that foreign banks tend to serve as the main bank especially for transparent firms.

Another strand of criticisms aimed at the presence of foreign banks comes from their supposedly propensity to leave the country in cases of financial distress, thus increasing the risk of financial crisis. However, Demirguc-Kunt et al. (1998) and Levine (1999) found that, if anything, the presence of foreign banks reduces the probability of banking crises, a result that is consistent with the findings of Goldberg (2002), who showed that U.S. foreign banks do not reduce their lending during period of crises, and those of Goldberg et al. (2002), who found that foreign bank presence does not increase the business-cycle sensitivity of lending. Furthermore, Cull and Maritnez-Peria (2007) showed that the share of domestic credit granted by foreign banks increases after a banking crisis. Lastly, Arena et al. (2007) analyzed a large sample of banks from Asian and Latin American countries showing that the lending policies of foreign subsidiaries are less sensitive to the host country's monetary conditions, and that while during financial crises their deposit and lending rates growth are not different from those of domestic banks, the reaction of their interest rates tends to be less pronounced.

Although this is still an open area of research, the evidence so far available is therefore unsupportive of the traditional view that the presence of foreign banks is harmful for the financial stability and hosting country and for its overall economic performance.

5 Conclusions

In recent years, the lower degree of internationalization in the banking sector relative to the non financial sector has progressively decreased. At the same time, some changes took place in the pattern of bank cross-border expansion: the share of bank cross-border M&As within G10 countries has decreased, while that within OECD countries has increased. Moreover, banks from G10 countries, OECD countries and, especially, from the EMU are increasingly more likely to do cross border M&As with banks in less developed countries than within themselves.

Standard empirical models of the determinants of cross-border bank M&As show a decreasing ability to explain the patterns of the most recent years as if, in a more progressively more integrated world, the role of bilateral linkages and of comparative advantages at the country level was becoming less relevant relative to firm specific characteristics.

The available empirical literature suggests that typically it is better banks from more developed countries that acquire worse banks, in less financially developed countries, suggesting a positive effect of foreign banks in the host country. But this picture may look too favourable to foreign banks. Indeed there are a large number of issues that are still open and need to be addressed carefully. One of the major problems is that local authorities need to adapt the regulatory and institutional framework to the changed environment, once foreign banks become important players in the country's financial market. The reluctance of local authorities to change their regulatory framework and the fear to see their moral suasion powers substantially lessened is probably one of the major reasons why policy makers, and especially supervisory authorities, are unwilling to see foreign banks entering their markets. As suggested by Garber (2000), local regulators are often unready to control the operations of the more sophisticated foreign banks. Although this is an occasion for the growth of local institutions, it is at the same time a challenge that, if lost, might create problems in the functioning of the financial markets.

A second issue is the possibility that a rapid entry of foreign banks might cause a loss of potential profit opportunities for local entrepreneurs. This is an infant-industry-protection argument. The trade off facing policy makers is in this case between a slower development in the

financial sector, with its consequences for the growth of the real economy, and the loss of future profit opportunities.

Finally, a word of caution on the long-term prospects for globalization of the banking sector. As argued by Stulz (2005), on theoretical basis, and already clear from the evidence in Berger et al. (2003), country attributes are still so critical to financial decision making, that the extent of globalization may remain limited. As Boot (2008) points out in chapter 7, "the nature of the banking activity may be such that banks may face more favourable competitive conditions in their home market".

References

Affinito, M. and M. Piazza (2006), "What borders are (likely) made of? An analysis of barriers to European banking integration", chapter 10, this volume.

Allen, F. and W.L. Song (2005), "Financial integration and EMU", European Financial Management, 11, 7-24.

Amel, D., C. Barnes, F. Panetta and C. Salleo (2004) "Consolidation and efficiency in the financial sector: A review of the international evidence", Journal of Banking and Finance, 28, 2493–2519.

Amihud, Y., G.L. DeLong and A. Saunders (2002), "The effects of cross-border bank mergers on bank risk and value", Journal of International Money and Finance, 21, 857-877.

Altunbas, Y. and D. M. Ibanez (2004), "Mergers and Acquisitions and Bank Performance in Europe: The Role of Strategic Similarities", Working paper series 398, European Central Bank.

Arena, M., C. M. Reinhart and F. Vazquez, (2007) "The Lending Channel in Emerging Economies: Are Foreign Banks Different?", IMF Working Paper No. 07/48, available at SSRN: http://ssrn.com/abstract=969862.

Ball, C. A. and A. E. Tschoegl (1982), "The Decision to Establish a Foreign Branch or Subsidiary: An Application of Binary Classification Procedures", Journal of Financial and Quantitative Analysis, 17, 411-24.

Barajas, Adolfo, Roberto Steiner, and Natalia Salazar (2000), "The Impact of Liberalization and Foreign Investment in Colombia's Financial Sector", Journal of Development Economics, 63, 157-96.

Bayraktar, N. and Y. Wang (2005), "Foreign Bank Entry and Domestic Banks' Performance: Evidence Using Bank-Level Data", mimeo., Penn State University and World Bank.

Bayraktar, N. and Y. Wang (2006), "Foreign Bank Entry, Performance of Domestic Banks and the Sequence of Financial Liberalization", World Bank policy Research Working Paper 4019.

Berger, A. N (2007), "Obstacles to a Global Banking System: ″Old Europe″ versus ″New Europe″", Journal of Banking and Finance, 31, 1955-1973.

Berger, A.N., C.M. Buch, G. DeLong and R. DeYoung (2004), "Exporting financial institutions management via foreign direct investment mergers and acquisitions" Journal of International Money and Finance, 23, 333-366.

Berger, A. N., G.R.G. Clarke, R. Cull, L. Klapper and G. F. Udell (2005), "Corporate governance and bank performance: A joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership", Journal of Banking and Finance, 29, 2179–2221.

Berger, A.N., Q. Dai, S. Ongena and D.C. Smith (2003), "To what extent will the banking industry be globalized?A study of bank nationality and reach in 20 European nations", Journal of Banking and Finance, 27, 383-415.

Berger, A. N., R. DeYoung, H. Genay, and G. F. Udell (2000), "The Globalization of Financial Institutions: Evidence from a Cross-Border Banking Performance", Brookings-Wharton Paper on Financial Service 2000, 23-120.

Berger, A.N., L.F. Klapper, M.S. Martinez Peria and R. Zaidi (2007), "Bank ownership type and banking relationships", Journal of Financial Intermediation, in press.

Blonigen, B. A. (1997), "Firm specific Assets and the Link between Exchange Rates and Foreign Direct Investment", American Economic Review, 87, 447-465.

Bonin, J. and I. Abel (2000), "Retail Banking in Hungary: A Foreign Affair?", William Davidson Institute working paper no. 356.

Boot, A. (2008), "The evolving landscape of banking", chapter 7, this volume.

Brealey, R. A. and E. C. Kaplanis (1996), "The Determination of Foreign Banking Location", Journal of International Money and Finance, 15, 577-597.

Buch , C. M. (2000), "Why Do Banks Go Abroad? Evidence from German Data", Journal of Financial Markets, Instruments and Institutions, 9, 33-67.

Buch, C. M. (2003), "Information or Regulation: What Drives the International Activities of Commercial Banks?", Journal of Money Credit and Banking, 35, 851-869.

Buch, C.M. and G. DeLong (2004), "Cross-border bank mergers: What lures the rare animal?", Journal of Banking and Finance, 28, 2077-2102.

Cameron and Trivedi (1998), Regression Analysis of Count Data, Cambridge University Press.

Clayes, S. and C. Hainz (2007), "Acquisition versus Greenfield: The Impact of the Mode of Foreign Bank Entry on Information and Bank Lending Rates", ECB Working Paper No. 653, available at SSRN: http://ssrn.com/abstract=913324.

Campa, J.M. and I. Hernando (2006), "M&As performance in the European financial industry", Journal of Banking and Finance, 30, 3367-3392.

Cerutti, E., G. Dell'Ariccia and M. S. Martinez Peria (2007), "How Banks Go Abroad: Branches or Subsidiaries?", Journal of banking and finance, 31, 1669-1692.

Chang, C. E., I. Hasan and W. C. Hunter (1998), "Efficiency of multinational banks: an empirical investigation, Applied Financial Economics, 8, 689-696

Claessens, S., A. Demirgüç-Kunt, and H. Huizinga (2000), "The Role of Foreign Banks in Domestic Banking Systems", in S. Claessens and M. Jansen, (eds.), The Internationalization of Financial Services: Issues and Lessons for Developing Countries, Boston, MA, Kluwer Academic Press.

Claessens, S., A. Demirgüç-Kunt and H. Huizinga (2001), "How does Foreing Entry Affect Domestic Credit Market", Journal of Banking and Finance, 25, 891-911.

Claessens, S. and J. K. Lee (2002), "Foreign Banks in Low-Income Countries: Recent Developments and Impacts", mimeo, The World Bank.

Claessens, S. and N. van Horen (2007), "Location Decisions of Foreign Banks and Competitive Advantage", available at SSRN: http://ssrn.com/abstract=904332.

Clarke, George, Robert Cull, Laura D'Amato, and Andrea Molinari. 1999. "The Effect of Foreign Entry on Argentina's Banking System." In The Internationalization of Financial Services: Issues and Lessons for Developing Countries, edited by Stijn Claessens and Marion Jansen. (Doredrecht, The Netherlands: Kluwer Academic).

Clarke, G., R. Cull and M.S. Martinez Peria (2002), "Does Foreign Bank Penetration Reduce Access to Credit in Developing Countries? Evidence from Asking Borrowers", mimeo, World Bank.

Cornett, M.M., G. Hovakimian, D. Palia and H. Tehranian (2003) "The impact of the manager–shareholder conflict on acquiring bank returns", Journal of Banking and Finance, 27, 103-131.

Cornett, M.M., J.J. McNutt, H. Tehranian (2006), "Performance Changes Around Bank Mergers: Revenue Enhancements versus Cost Reductions", Journal of Money, Credit, and Banking, 38, 1013-1050.

Crystal, J., B. G. Dages and L. Goldberg (2001), "Does Foreign Ownership Contribute to Sounder Banks? The Latin American Experience." in Open Doors: Foreign Participation in Financial Systems in Developing Countries, edited by R. Litan, P. Masson and M. Pomerleano, Washington DC, Brookings Institution and the World Bank.

Cull, R. and M. S. Martinez-Peria (2007), "Foreign Bank Participation and Crises in Developing Countries", World Bank Policy Research Working Paper 4128.

Cybo-Ottone, A. and M. Murgia (2000), "Mergers and shareholder wealth in European banking", Journal of Banking and Finance, 24, 831-859.

De Felice, G. and Revoltella, D. (2003), "Towards a multinational bank? European banks' growth strategies", Banque and Marches.

De Long, G.L. (2001), "Stockholder gains from focusing versus diversifying bank mergers", Journal of Financial Economics, 59, 221–252.

Demirguc-Kunt, Asli, Ross Levine, and Hong-Ghi Min (1998), "Opening to Foreign Banks: Issues of Stability, Efficiency, and Growth." In Seongtae Lee, ed., The Implications of Globalization of World Financial Markets. (Seoul: Bank of Korea).

Focarelli D. and A.F. Pozzolo (2001), "The Patterns of Cross-Border Bank Mergers and Shareholdings in the OECD Countries", Journal of Banking and Finance, 25, 2305-2337.

Focarelli D. and A.F. Pozzolo (2005), "Where Do Banks Expand Abroad? An Empirical Analysis", Journal of Business, 78, 2435-2463.

Focarelli D. and A.F. Pozzolo (2008), "Cross-Border M&As in the Financial Sector: Is Banking Different from Insurance?", Journal of Banking and Finance, 32, 15-29.

Focarelli D., A.F. Pozzolo and C. Salleo (2008), "Do M&As In The Financial Industry Modify Systematic Risk?", mimeo.

Garber, P. (2000), "What you see vs. what you get: Derivatives in International Capital Flows" in Managing Financial and Corporate Distress: Lessons from Asia, edited by C. Adams, R.E. Litan, Michael Pomerleano, Washington DC, Brookings Institution.

Giannetti M. and S. Ongena (2007), "Financial integration and entrepreneurial activity: Evidence from foreign bank entry in emerging markets", Review of Finance, forthcoming.

Goldberg, L. G. and D. Johnson (1990), "The Determinants of U.S. Banking Activity Abroad", Journal of International Money and Finance, 9, 123-37.

Goldberg. L. G. and A. Saunders (1980), "The Causes of U.S. Bank Expansion Overseas: The Case of Great Britain", Journal of Money Credit and Banking, 12, 630-43.

Goldberg. L. G. and A. Saunders (1981), "The Growth and Organizational Form of Foreign Banks in the U. S.", Journal of Money Credit and Banking, 13, 365-74.

Goldberg, Linda. 2002. "When Is Foreign Bank Lending to Emerging Markets Volatile?" in Preventing Currency Crises in Emerging Markets, edited by Sebastian Edwards and Jeffrey Frankel (NBER and University of Chicago Press).

Goldberg, Linda, B. Gerard Dages, and Jennifer Crystal (2002), "The Lending Cycles of Banks in Emerging Markets: Foreign and Domestic Owners Compared". mimeo, Federal Reserve Bank of New York.

Goldberg, L. (2004), "Financial-Sector FDI and Host Countries: New And Old Lessons", NBER Working Paper n. 10441.

Grosse, R. and L. G. Goldberg (1991), "Foreign Bank Activity in the United States: an analysis by Country of Origin", Journal of Banking and Finance, 15, 1092-112.

Heston, H., R. Summers and B. Aten (2006), "Penn World Table Version 6.2", Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Levine, R. (1999), "Foreign Bank Entry and Capital Control Liberalization: Effects on Growth and Stability", mimeo, University of Minnesota.

Magri, S., A. Mori and P. Rossi (2004), "The entry and the activity level of foreign banks in Italy: An analysis of the determinants", Journal of Banking and Finance, 29, 1295-1310.

Markusen , J.R. and A.J. Venables (1998), "Multinational firms and the new trade theory", Journal of International Economics, 46, 183–203

Martinez Peria. M.S. and A. Mody (2004), "How Foreign Participation and Market Concentration Impact Bank Spreads: Evidence from Latin America", mimeo, The World Bank.

Mian, A. (2006), "Distance Constraints: The Limits of Foreign Lending in Poor Economies, Journal of Finance, 61, 1465-1505.

Micco, A., U. Panizza and M. Yanez (2007), "Bank ownership and performance. Does politics matter?", Journal of Banking and Finance, 31, 219-241.

Miller, S.R., and A. Parkhe (1998), "Patterns in the Expansion of U.S. Banks' Foreign Operations", Journal of International Business Studies, 29, 359–390.

Morgan, D. (2002), "Rating Banks: Risk and Uncertainty in an Opaque Industry", American Economic Review, 92, 874–888.

Nigh, D., K.R. Cho, and S. Krishnan (1986), "The Role of Location-Related Factors in U.S. Banking Involvement Abroad: An Empirical Analysis", Journal of International Business Studies, 59–72.

Papi, L. and D. Revoltella (2000), "Foreign Direct Investment in the Banking Sector: A Transitional Economy Perspective", in in S. Claessens and M. Jansen, (eds.), The Internationalization of Financial Services: Issues and Lessons for Developing Countries, Boston, MA, Kluwer Academic Press.

Piscitello, L. and A. F. Pozzolo (2006), "Tendenze di internazionalizzazione del sistema bancario italiano nel contesto europeo", in Onida, Fabrizio (eds.), Internazionalizzazione e servizi finanziari per le imprese, Bancaria Editore.

Sagari, S. B. (1992), "United States Foreign Direct Investment in the Banking Industry", Transnational Corporations, 93–123.

Stulz, R. M. (2005), "The Limits of Financial Globalization", Journal of Finance, 2005, 60, 1595-1638.

ter Wengel (1995), "International Trade in Banking Services", Journal of International Money and Finance, 14, 47-64.

Tschoegl, A. E. (1982), "Concentration among International Banks", Journal of Banking and Finance, 6, 567-78.

Tschoegl, A. E. (1983), "Size, Growth, and Transnationality among the World's Largest Banks", Journal of Business, 187-201.

Tschoegl, A. E. (2004), "Who owns the major US subsidiaries of foreign banks? A note", Interntional Finnancial Markets, Institutions and Money, 14, 255–266.

Unite, Angelo and Michael Sullivan (2001), "The Impact of Liberalization of Foreign Bank Entry on the Philippine Domestic Banking Market" Philippine Institute PASCN discussion paper no. 2001-08.

Ursacki, T. and I. Vertinsky (1992), "Choice of Entry Timing and Scale by Foreign Banks in Japan and Korea", Journal of Banking and Finance, 16, 405-21.

Williams, B. (1996), "Determinants of the Performance of Japanese Financial Institutions in Australia 1987-1992", Applied Economics, 28, 1153- 65.

Williams, B. (1997), "Positive Theories of Multinational Banking: Eclectic Theory versus Internalisation Theory", Journal of Economic Surveys, 11, 71-100.

Williams, B. (1998), "Factors Affecting the Performance of Foreign-Owned Banks in Australia: a Cross-Sectional Study", Journal of Banking and Finance, 22, 197-219.

Wooldridge (2001), Econometric analysis of cross section and panel data, MIT Press.

Yamori, N. (1998), "A Note on the Location Choice of Multinational Banks: the Case of Japanese Financial Institutions", Journal of Banking and Finance, 22, 109-20.

Yeyati, E.L. and A. Micco (2007), "Concentration and foreign penetration in Latin American banking sectors: Impact on competition and risk", Journal of Banking and Finance, 31, 1633-1647.

Table 1

The Determinants of Cross-border M&As

Marginal effects calculated from a negative binomial estimation of the empirical model in equations (1) and (2). The dependent variable is the number of cross-border M&As in the banking sector between each country pair where at least one merger have taken place in the sample period (1990-2006). Data on GDP are from the Penn World Tables, version 6.2 (Heston et al., 2006). Data on bank credit and stock market capitalization are from the World Bank database. Data on geographical distance, bilateral trade (the logarithm of the volume of bilateral trade) and common language are from Andrew Rose's web site. For each a generic variable x, measured in countries i and j, the the similarity index is calculated as: $1-[abs(x_i - x_j)/max(x_i,x_j)]$. Estimates in Panel A also includes unreported time dummies. Standard errors are corrected for heteroskedasticity using the White (1980) procedure and are reported in parenthesis. The symbol *** indicates a significance level of 1% or less; ** between 1 and 5%; * between 5 and 10%.

VARIABLES	Panel A: Time dummies		Panel B: Time trend	
	Marginal effect (*Standard error*)	**Significance**	**Marginal effect** (*Standard error*)	**Significance**
Bilateral characteristics				
Common language (dummy)	0.10	***	0.12	***
	(0.02)		(0.02)	
Common border (dummy)	-0.01		0.00	
	(0.01)		(0.01)	
Bilateral trade	0.62	***	0.64	***
	(0.07)		(0.08)	
Distance	-0.60	***	-0.46	***
	(0.11)		(0.12)	
Similarity in GDP	0.25	***	0.26	***
	(0.07)		(0.07)	
Similarity in GDP per capita	0.13		0.02	
	(0.12)		(0.15)	
Similarità in credit/GDP	0.21		0.29	**
	(0.13)		(0.14)	
Similarità in stock market capitalization/GDP	0.08		0.09	
	(0.10)		(0.11)	
Origin country characteristics				
GDP	-0.14	*	-0.27	***
	(0.08)		(0.09)	
GDP per-capita	0.07		-0.12	
	(0.11)		(0.14)	
Credit/GDP	0.70	***	0.54	***
	(0.16)		(0.18)	
Stock market capitalization/GDP	0.72	***	0.62	***
	(0.13)		(0.15)	
Credit and Stock market capitalization (interaction term)	-0.54	***	-0.44	***
	(0.09)		(0.10)	
Domestic bank M&As	0.39	***	0.38	***
	(0.07)		(0.07)	
Destination country characteristics				
GDP	-0.45	***	-0.38	***
	(0.07)		(0.08)	
GDP per capita	-0.42	***	-0.41	***
	(0.10)		(0.13)	
Credit/GDP	-0.57	***	-0.62	***
	(0.20)		(0.21)	
Stock market capitalization/GDP	-0.83	***	-0.73	***
	(0.20)		(0.21)	
Credit and Stock market capitalization (interaction term)	0.47	***	0.45	***
	(0.15)		(0.15)	
Domestic bank M&As	0.73	***	0.67	***
	(0.08)		(0.08)	
Time trend			0.84	***
			(0.15)	
Years 2001-2003 (dummy)			-0.12	***
			(0.04)	
Wald test of joint significance of the parameters (*p-value*)	4998.03	(0.00)	5026.77	(0.00)
Number of observations	84,006		84,006	

<div style="text-align:right">**Table 2**</div>

The Determinants of Cross-border M&As

Marginal effects calculated from a negative binomial estimation of the empirical model in equations (1) and (2). The dependent variable is the number of cross-border M&As in the banking sector between each country pair where at least one merger have taken place in the sample period (1990-2006). Data on GDP are from the Penn World Tables, version 6.2 (Heston et al., 2006). Data on bank credit and stock market capitalization are from the World Bank database. Data on geographical distance, bilateral trade (the logarithm of the volume of bilateral trade) and common language are from Andrew Rose's web site. For each a generic variable x, measured in countries i and j, the difference is measured by a similarity index calculated as: 1-[abs(x_i - x_j)/max(x_i,x_j)]. Estimates in Panel A also includes unreported time dummies. Standard errors are corrected for heteroskedasticity using the White (1980) procedure and are reported in parenthesis. The symbol *** indicates a significance level of 1% or less; ** between 1 and 5%; * between 5 and 10%. The difference tests test that the null hypothesis that the coefficients in the sub periods are identical, i.e., that the differences are significantly different from zero; *** indicates that the probability of incorrectly rejecting the null cannot be rejected at the 1 per cent level or less; ** between 1 and 5 per cent; * between 5 and 10 per cent.

VARIABLES	Sample period 1990-2000 (a) Coefficient (Std. err.)	Sig.	2001-2003 (b) Coefficient (Std. err.)	Sig.	2004-2006 (c) Coefficient (Std. err.)	Sig.	(a)=(b)	(b)=(c)	(a)=(c)	(a)=(b) (b)=(c)
Bilateral characteristics										
Common language (dummy)	0.10 (0.02)	***	0.02 (0.01)		0.01 (0.01)				***	**
Common border (dummy)	0.00 (0.00)		-0.01 (0.00)	***	0.00 (0.00)		***	***		**
Bilateral trade	0.87 (0.11)	***	0.74 (0.18)	***	0.25 (0.11)	**		**	***	***
Distance	-0.07 (0.17)		-0.68 (0.27)	**	-0.90 (0.18)	***	*		***	***
Similarities in GDP	0.23 (0.05)	***	0.05 (0.04)		0.02 (0.03)				**	*
Similarities in GDP per capita	0.07 (0.10)		0.10 (0.12)		-0.10 (0.07)					
Similarities in credit/GDP	0.24 (0.12)	**	-0.06 (0.10)		0.11 (0.05)	**				
Sim. in stock market cap./GDP	0.01 (0.09)		0.03 (0.06)		0.06 (0.04)					
Origin country characteristics										
GDP	-0.44 (0.13)	***	0.01 (0.29)		0.50 (0.20)	**			***	**
GDP per capita	0.04 (0.22)		1.68 (1.01)	*	0.86 (0.42)	**	**	**		*
Credit/GDP	0.24 (0.16)		-0.06 (0.15)		0.02 (0.08)					
Stock market cap./GDP	0.30 (0.10)	***	0.06 (0.08)		0.02 (0.10)					
Credit & Stock market cap. (int.)	-0.19 (0.07)	***	-0.05 (0.06)		-0.02 (0.06)					
G10 country	0.08 (0.03)	**	-0.01 (0.02)		0.00 (0.01)		*			
OECD country	0.07 (0.07)		0.07 (0.07)		-0.04 (0.04)					
Domestic bank M&As	0.27 (0.10)	***	0.38 (0.20)	*	-0.01 (0.16)					
Destination country characteristics										
GDP	-0.44 (0.12)	***	-0.43 (0.26)		0.21 (0.16)				*	
GDP per capita	-0.37 (0.16)	**	-0.54 (0.59)		0.45 (0.37)					
Credit/GDP	-0.42 (0.18)	**	-0.24 (0.15)		-0.16 (0.09)	*				
Stock market cap./GDP	-0.36 (0.16)	**	-0.64 (0.21)	***	-0.30 (0.10)	***	**	*		
Credit & Stock market cap. (int.)	0.17 (0.12)		0.42 (0.14)	***	0.22 (0.07)	***	**	*		*
G10 country	-0.01 (0.03)		-0.03 (0.03)		0.00 (0.02)					
OECD country	-0.02 (0.07)		0.13 (0.06)	**	-0.07 (0.04)	*	**	**		*
Eastern country	0.02 (0.01)		0.00 (0.01)		0.01 (0.01)					
Domestic bank M&As (log)	0.59 (0.10)	***	0.49 (0.29)	*	0.17 (0.18)					
Time trend	0.48 (0.15)	***	-0.93 (0.63)		0.68 (0.46)		**			*
Wald test (p-value)	985.07 (0.00)		451.99 (0.00)		395.91 (0.00)					
Number of observations	44,797		19,475		19,734					